

**FINAL
PRELIMINARY ASSESSMENT
REPORT**

**SALTON SEA TEST BASE
IMPERIAL COUNTY, CALIFORNIA**

EPA IDENTIFICATION: CA 2170023152

**NEESA 13-109
SEPTEMBER 1993**



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
CA 2170023152

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Salton Sea Test Base		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER			
03 CITY Salton City	04 STATE CA	05 ZIP CODE 92275	06 COUNTY Imperial	07 COUNTY CODE 025	08 CONC DIST 27
09 COORDINATES LATITUDE 32° 49' 23.0"	LONGITUDE 115° 39' 50.0"				

10 DIRECTIONS TO SITE (Starting from nearest public road)
U.S. Highway 86 south from Salton City, CA; turn left on access road marked "SALTON SEA TEST BASE"

III. RESPONSIBLE PARTIES

01 OWNER (If known) Commander		02 STREET (Business, mailing, residential) Naval Air Weapons Center China Lake			
03 CITY China Lake	04 STATE CA	05 ZIP CODE 93555-6001	06 TELEPHONE NUMBER (619) 939-3432		
07 OPERATOR (If known and different from owner)		08 STREET (Business, mailing, residential)			
09 CITY		10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER ()	
13 TYPE OF OWNERSHIP (Check one) <input type="checkbox"/> A. PRIVATE <input checked="" type="checkbox"/> B. FEDERAL: <u>U.S. Navy</u> <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHW: _____ (Specify) <input type="checkbox"/> G. UNKNOWN					

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ____/____/____ ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED ____/____/____ ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE <u>02 / 15 / 89</u> 0 NO		BY (Check one that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input checked="" type="checkbox"/> F. OTHER: <u>Naval Energy & Environmental Support Activity</u> (Specify) CONTRACTOR NAME(S): _____			
02 SITE STATUS (Check one) <input type="checkbox"/> A. ACTIVE <input checked="" type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION <u>1942</u> <u>1980</u> <input type="checkbox"/> UNKNOWN BEGINNING YEAR ENDING YEAR			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Presence of asbestos in buildings, 17 underground storage tanks, 3 septic tank/leach lines with potential metals contamination, 6 disposal areas receiving base generated waste, 2 paint shops and 3 public works shops with potential contamination, bombing range and small arms range with potential ordnance contamination. See attached PA.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
No permanent or working population at the Salton Sea Test Base. Endangered species of plants or animals are probably present within the boundaries of the Salton Sea Test Base. The Salton Sea National Wildlife Refuge borders the Base to the east.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (inspection required promptly) ☒ B. MEDIUM (inspection required) ☐ C. LOW (inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT Thomas Merendini		02 OF (Agency, Organization) Naval Air Weapons Center, China Lake		03 TELEPHONE NUMBER 619 939-3432	
04 PERSON RESPONSIBLE FOR ASSESSMENT Barbara Johnson	05 AGENCY U.S. Navy	06 ORGANIZATION NEESA	07 TELEPHONE NUMBER 805 982-4858	08 DATE 11 / 30 / 92 MONTH DAY YEAR	

upgrading of the facilities at Salton Sea were begun and were completed in November 1949. In March, 1950, the operation of Salton Sea was transferred to Sandia Corporation.

The tests conducted by AEC/Sandia at Salton Sea had two main aims. One was to test and evaluate ballistic and aerodynamic behavior of various weapon shapes and configurations which required the establishment of the camera stations. The other aim was to functionally test the operation of internal weapon components, such as fusing and firing, as the bomb fell toward the target. Two types of drops took place; retarded (by parachute) and free-fall. The units to be dropped were assembled primarily by Sandia and were loaded into the aircraft either at Kirtland Field (in Albuquerque) or at El Centro, CA. The contents of the dropped units is uncertain. Interviewees seemed to think concrete and steel were the most common contents as well as lead. Uranium as either natural uranium or depleted uranium (depleted in U-235) is also a possibility as well as small quantities of other metals. The firing and fusing tests used lead/acid batteries until the mid 1950's when Ni/Cd batteries were used. High Explosive (HE) powder was used only for spotting charges in the drops. It may be impossible to obtain accurate information on the contents of the drops because of the policy to destroy all information when a weapon is declared no longer unsuitable or no longer stockpiled.

Most available records from the time period state that the test shapes were "inert". "Inert" as used in the correspondence from the time period meant not containing explosives or radioactive materials (i.e. non-enriched uranium). However, two memos from the Department of Energy (Department of Energy, Albuquerque Operations, Sandia Area Office: Salton Sea - Expended AEC Payload, July 18, 1978, and Department of Energy file: Letter to Mr. F. M. Keeperts, September 12, 1962) indicate that at least one of the test units did contain uranium. Uranium was less expensive than concrete and easier to use than lead. Therefore, it was used as ballast in some of the test units. Specifically, an MK-6 flyaround test unit lost in the early 1950s "contained 120# of normal uranium".

The target used by Z Division from 1947 to 1948 was located approximately 1/2 mile from the western shore. Sandia continued to use this target until 1954 when a new sea target was placed about 1 mile from the shoreline. The target was located at Latitude N30° 11' 48.6" and Longitude W115° 49' 24.6" in section 9 Township 11 South, Range 11 East, San Bernardino Meridian. The land target was located in section 13 Township 11 South, Range 10 East, San Bernardino Meridian (Sandia Corporation Field Testing

Organization, DWG No. SK5216-60015, 1970). In 1950, two new camera stations were placed on islands (North Island and South Island) out in the Salton Sea to assist in tracking the drops. They were abandoned in 1952 because of the rising water level. The total number of drops by Sandia through 1962 was 1180. There was also a series of recovered drops in the 1970's which is not included in the previous tabulation.

All possible effort was made by Sandia to recover Sandia-dropped test units from specific target areas, although not all units were recovered due to the deep penetrating nature of certain test shapes, shallow subsurface water, and quicksand. The limited underwater recovery technology available during this time period did not allow for recovering all of the test units dropped in the Salton Sea.

From 1949 through the 1950's, the Strategic Air Command (SAC) made training runs at SSTB on a non-interference basis and reportedly made over 2550 drops. According to one interviewee, the SAC drops were not observed to explode on impact. The Air Force used Salton Sea for Project Ajax in 1947. Also, during the time of AEC/Sandia control of the Salton Sea facility, the Navy continued to use it as an emergency landing area for seaplanes. In 1959-1960, the Salton Sea was used for testing of the Project Mercury space capsule with support provided by Sandia.

Sandia closed down their operations at Salton Sea in the early 1960's. In 1961 and 1962, three underwater salvage operations were undertaken by Sandia utilizing Navy divers from El Centro. AEC's retarded impact target areas were searched and locatable test units were recovered. Sandia ceased all operations at Salton Sea in July, 1961 and AEC assumed caretaker status. The range continued to operate from the early 1960's to 1979 with the Navy, Air Force, and NASA conducting operations at the facility. These operations included parachute testing, aerial and space recovery systems testing, and water survival gear testing. The DOD Joint Parachute Test Facility conducted training jumps on the water range. In 1979, Salton Sea Test Base was acquired by Naval Weapons Center (NWC), China Lake and was named the National Parachute Test Range (NPTR). By the end of September, 1979, all NPTR operations were transferred to NWC, China Lake and SSTB was essentially abandoned. Guard services, and electrical and telephones services were terminated in October, 1987.

